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PATENT
Docket No.278012001420

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Susan B. Lynch

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of: Carlos F. BARBAS, III, et al. Serial No.: 09/765,555 Filing Date: January 19, 2001 For: METHODS AND COMPOSITIONS TO MODULATE EXPRESSION IN PLANTS	Examiner: Not yet assigned Group Art Unit: 1638

REQUEST FOR CORRECTION OF DRAWINGS

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Enclosed are substitute sheets of drawings for Figure 24 in connection with the above-identified application. In addition, please find enclosed a set of drawings showing the proposed changes in red.

The Figures were amended to include sequence identification numbers which were omitted at the time of filing.

Applicants respectfully request the entry of these amendments.

sd-60563

In the unlikely event that the transmittal letter is separated from this request and the U.S. Patent Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing to our **Deposit Account No. 03-1952**. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

Dated: October 8, 2001 By: _____

Peng Chen
Registration No. (43,543)

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Telephone: (858) 720-5112
Facsimile: (858) 720-5125

Figure 24

(1) Sequence of promoter CsVMV (Example 1A) (SEQ ID NO:1):

Tctagaaactagcttccagaaggtaattatccaagatgtagcatcaagaatccaatgtttacgggaaaaactatggaa
gtattatgtgagctcagcaagaagcagatcaatatgcggcacatatgcaacctatgttcaaaaatgaagaatgtacagatacaag
atcctatactgccagaatacgaagaagaatacgtagaaattgaaaaagaagaaccaggcgaagaaaagaatcttgaagacgta
agcactgacgacaacaatgaaaagaagaagataaggtcggtgattgtgaaagagacatagaggacacatgtaaggtggaaaa
tgtaagggcggaaagtaaccttatcacaaaggaatcttatcccccactacttatccttttatatttttccgtgtcatttttgcccttgagtt
ttcctatataaggaaccaagttcggcatttgtgaaaacaagaaaaaatttggtgtaagctattttctttgaagtactgaggatacaact
tcagagaaatttgtaagtttgta

Total 531 bp

(2) Sequence of zinc finger protein 2C7 binding site (Example 1A) (SEQ ID NO:2):

GCG TGG GCG GCG TGG GCG

Total 18 bp.

(3) Sequence of promoter pc7rbTATA (Example 1A) (SEQ ID NO:3):

Cccgggtatataataagcttggcattccggtactgttggtaaagccaccat

Total 51 bp.

(4) Sequence of pND3008 coding region (Example1B) (SEQ ID NO:4):

agcgtgacccggtcgtgcccctctctagagataatgagcattgcatgtctaagttataaaaaattaccacatattttttttg
tcacacttgtttgaagtgcagtttatctatctttatacatatatttaaactttactctacgaataatataatctatagtactacaataatatca
gtgttttagagaatcatataaatgaacagttagacatggtctaaaggacaattgagtattttgacaacaggactctacagttttatcttt
ttagtgtgcatgtgttctccttttttttttgcaaatagcttcacctatataatacttcatccattttattagtacatccatttagggtttagggtt
aatggtttttatagactaatttttttagtacatctattttattctattttagcctctaaattaagaaaactaaaactctattttagtttttttattta
ataatttagatataaaatagaataaaataaagtgactaaaaattaaacaaataccctttaagaaattaaaaaaactaaggaaacatttt
tcttgtttcgagtagataatgccagcctgttaaacgccgtcgacgagtctaacggacaccaaccagcgaaccagcagcgtcgcg
tcgggccaagcgaagcagacggcacggcatctctgtcgctgcctctggacccctctcgagagttccgctccaccgttggacttg
ctccgctgtcggcatccagaaattgcgtggcggagcggcagacgtgagccggcacggcaggcggcctcctcctcctctcacg
gcacggcagctacgggggattcctttcccaccgctccttcgctttcccttcctcgcccgccgtaataaatagacacccctccaca

ccctctttccccaacctcgtgttgttcggagcgcacacacacacaaccagatctcccccaaatccacccgtcggcacctccgctt
caaggtacgccgctcgtcctcccccccccccccctctctaccttctctagatcggcgttccggtccatggttagggcccggtagttc
tacttctgttcatgtttgtgttagatccgtgtttgtgttagatccgtgctgctagcgttcgtacacggatgcgacctgtacgtcagacac
gttctgattgctaacttgccagtgtttctctttggggaatcctgggatggctctagccgttccgcagacgggatcgatttcatgatttttt
tttgtttcgttgcatagggtttggtttgccctttcctttatttcaatatatgccgtgcacttgtttgtcgggtcatcttttcatgctttttttgt
cttggttgtgatgatgtggtctggttgggcggtcgttctagatcggagtagaattctgtttcaaactacctggtggatttattaattttgg
atctgtatgtgtgtgccatacatattcatagttacgaattgaagatgatggatggaaatatcgatctaggataggtatacatgttgatg
cgggttttactgatgcatatacagagatgctttttgttcgcttggttgtgatgatgtggtgtggttgggcggtcgttcattcgttctagat
cggagtagaatactgtttcaaactacctggtgtatttattaatttttggaactgtatgtgtgtgtcatacatcttcatagttacgagtttaag
atggatggaaatatcgatctaggataggtatacatgttgatgtgggttttactgatgcatatacatgatggcatatgcagcatctattc
atatgctctaaccttgagtacctatctattataataaacaagtatgttttataattattttgatcttgatatacttggatgatggcatatgca
gcagctatatgtggatttttttagccctgccttcatacgctatttatttgcttggtactgtttcttttgtcgatgctcaccctgttgtttggtgt
tacttctgcaggtcgactctagaggatctatggcccaggcggccctcgagctcccctatgcttgccctgtcgagtcctgcgatcgc
cgcttttctaagtcggctgatctgaagcgccatatccgcatccacacaggccagaagcccttccagtgtcgaatatgcatgcgtaa
cttcagtcgtagtgaccaccttaccacccacatccgcacccacacaggcgagaagccttttgcctgtgacatttgtgggaggaag
tttgccaggagtgatgaacgcaagaggcataccaaaatccataccggtgagaagccctatgcttgccctgtcgagtcctgcgatc
gccgcttttctaagtcggctgatctgaagcgccatatccgcatccacacaggccagaagcccttccagtgtcgaatatgcatgcgt
aacttcagtcgtagtgaccaccttaccacccacatccgcacccacacaggcgagaagccttttgcctgtgacatttgtgggagga
agtttgccaggagtgatgaacgcaagaggcataccaaaatccatttaagacagaaggactctagaactagtggccaggccggc
caggctagcccgaaaaagaaacgcaaagttgggcgcgccgacgcgctggacgatttcgatctcgacatgctgggttctgatgc
cctcgatgactttgacctggatatgttgggaagcgacgcattggatgactttgatctggacatgctcggctccgatgctctggacg
atttcgatctcgatatgttaattaactacccgtacgacgttccggactacgcttcttgagaattcgcggccgcgggcccgagcctag
ggaggagctcaagatcccccgaatttccccgatcgttcaaacatttggcaataaagtttcttaagattgaatcctgttgccggtcttg
cgatgattatcatctaatttctgttgaattacgttaagcatgtaataattaacatgtaatgcatgacgttatttatgagatgggtttttatga
ttagagtcccgcaattatacatttaatacgcgatagaaaacaaaatatagcgcgcaaactaggataaattatcgcgcgcggtgtca
tctatgttactagatccgggaattgggtac

Total:	3120 bp
ZmUbi promoter:	44 bp to 2026 bp
Six finger ZFP2C7:	2060 bp to 2588 bp
Nuclear localization signal:	2620 bp to 2641 bp
VP64 activation domain:	2641 bp to 2805 bp

HA eptitope tag: 2805 bp to 2836 bp

Nos terminator: 2884 bp to 3164 bp

(5) Sequence of pND3018 coding region (Example 1B) (SEQ ID NO:5):

agcgtgacccggtcgtgcccctctctagagataatgagcattgcatgtctaagttataaaaaattaccacatattttttttg
tcacacttgtttgaagtgcagtttatctatctttatacatatatttaaactttactctacgaataatataatctatagtactacaataatatca
gtgttttagagaatcatataaatgaacagttagacatggtctaaaggacaattgagtattttgacaacaggactctacagttttatcttt
ttagtgtgcatgtgttctccttttttttgcaaatagcttcacctatataatacttcatccattttattagtacatccatttagggtttagggtt
aatggtttttatagactaatttttttagtacatctattttattctattttagcctctaaattaagaaaactaaaactctattttagttttttattta
ataatttagatataaaatagaataaaataaagtgactaaaaattaaacaaataccctttaagaaattaaaaaaactaaggaaacatttt
tcttgtttcgagtagataatgccagcctgttaaacgccgtcgacgagtctaacggacaccaaccagcgaaccagcagcgtcgcg
tcgggccaagcgaagcagacggcacggcatctctgtcgctgcctctggacccctctcgagagttccgctccaccgttggacttg
ctccgctgtcggcatccagaaattgcgtggcggagcggcagacgtgagccggcacggcaggcggcctcctcctcctctcacg
gcacggcagctacgggggattcctttcccaccgctccttcgctttcccttcctcgcccgccgtaataaatagacacccctccaca
ccctctttccccaacctcgtgttgttcggagcgcacacacacacaaccagatctcccccaaatccacccgtcggcacctccgctt
caaggtacgccgctcgtcctcccccccccccccctctctaccttctctagatcggcgttccggtccatggttagggcccggtagttc
tacttctgttcatgtttgtgttagatccgtgtttgtgttagatccgtgctgctagcgttcgtacacggatgcgacctgtacgtcagacac
gttctgattgctaacttgccagtgtttctctttggggaatcctgggatggctctagccgttccgcagacgggatcgatttcatgatttt
tttgtttcgttgcatagggtttggtttgccctttcctttatttcaatatatgccgtgcacttgtttgtcgggtcatcttttcatgctttttttgt
cttggttgtgatgatgtggtctggttgggcggtcgttctagatcggagtagaattctgtttcaaactacctggtggatttattaattttgg
atctgtatgtgtgtgccatacatattcatagttacgaattgaagatgatggatggaaatatcgatctaggataggtatacatgttgatg
cgggttttactgatgcatatacagagatgctttttgttcgcttggttgtgatgatgtggtgtggttgggcggtcgttcattcgttctagat
cggagtagaatactgtttcaaactacctggtgtatttattaattttggaactgtatgtgtgtgtcatacatcttcatagttacgagtttaag
atggatggaaatatcgatctaggataggtatacatgttgatgtgggttttactgatgcatatacatgatggcatatgcagcatctattc
atatgctctaaccttgagtacctatctattataataaacaagtatgttttataattattttgatcttgatatacttggatgatggcatatgca
gcagctatatgtggatttttttagccctgccttcatacgctatttatttgcttggtactgtttcttttgtcgatgctcaccctgttgtttggtgt
tacttctgcaggtcgactctagaggatccactagtgagccatgggctagcatggccgctgccgtgcgcatgaacatccagatgct
gctcgaagccgctgattatctggaacgccgggagcgcgaagccgagcacggctacgccagcatgctgccatatccgaaaaag
aaacgcaaggtggcccaggcggccctcgagctcccctatgcttgccctgtcgagtcctgcgatcgccgcttttctaagtcggctg
atctgaagcgccatatccgcatccacacaggccagaagcccttccagtgtcgaatatgcatgcgtaacttcagtcgtagtgacca
ccttaccacccacatccgcacccacacaggcgagaagccttttgcctgtgacatttgtgggaggaagtttgccaggagtgatgaa

cgcaagaggcataccaaaatccataccggtgagaagccctatgcttgccctgtcgagtcctgcgatcgccgcttttctaagtcgg
ctgatctgaagcgccatatccgcatccacacaggccagaagcccttccagtgtcgaatatgcatgcgtaacttcagtcgtagtga
ccaccttaccacccacatccgcacccacacaggcgagaagccttttgcctgtgacatttgtgggaggaagtttgccaggagtgat
gaacgcaagaggcataccaaaatccatttaagacagaaggactctagaactagtggccaggccggccagtacccgtacgacg
ttccggactacgcttcttgaaagcttggtaccgagctcggatcccccgaatttccccgatcgttcaaacatttggcaataaagtttctt
aagattgaatcctgttgccggtcttgcgatgattatcatctaatttctgttgaattacgttaagcatgtaataattaacatgtaatgcatg
acgttatttatgagatgggtttttatgattagagtcccgcaattatacatttaatacgcgatagaaaacaaaatatagcgcgcaaacta
ggataaattatcgcgcgcggtgtcatctatgttactagatccgggaattccggaccggtaccagcggcc

Total:	3068 bp
ZmUbi promoter:	44 bp to 2026 bp
SID repression domain:	2066 bp to 2173 bp
Nuclear localization signal:	2174 bp to 2194 bp
Six finger ZFP2C7:	2207 bp to 2735 bp
HA eptitope tag:	2762 bp to 2791 bp
Nos terminator:	2820 bp to 3112 bp

(6) Sequence of 6X2C7 binding site (SEQ ID NO:6):

Cgtgctagcgcgtgggcggcgtgggcgaacaagcgtgggcggcgtgggcgaacaagcgtgggcggcgtgggc
gactagtgctagcgcgtgggcggcgtgggcgaacaagcgtgggcggcgtgggcgaacaagcgtgggcggcgtgggcgac
tagtg

Total: 155 bp

(7) Sequence of 3 finger protein C7: **(SEQ ID NO:73)**

Atggcccaggcggccctcgagccctatgcttgccctgtcgagtcctgcgatcgccgcttttctaagtcggctgatctg
aagcgccatatccgcatccacacaggccagaagcccttccagtgtcgaatatgcatgcgtaacttcagtcgtagtgaccacctta
ccacccacatccgcacccacacaggcgagaagcctttgcctgtgacatttgtgggaggaagtttgccaggagtgatgaacgca
agaggcataccaaaatccatttaagacagaaggactctagaactagtggccaggccggccaggctagc

Total: 314 bp

(8) Amino acid sequence of 3 finger protein C7: **(SEQ ID NO:74)**

Maqaalepyacpvescdrrfsksadlkrhirihtgqkpfqcricmrnfsrsdhltthirthtgekpfacdicgrkfar sderkrhtkihlrqkdsrtsgqagqas

Total: 105 aa

(9) Sequence of zinc finger protein ZFPAp3 binding site:

GAT GGA GTT GAA GAA GTA (SEQ ID NO:7)

Total: 18 bp

(10) Sequence of zinc finger protein ZFPm1 and ZFPm2 binding site m12:

GCC TCC TTC CTC CTC TCA CTC (SEQ ID NO:8)

Total: 21 bp

ZFPm1 binding site: compliment strand of 1 to 18

ZFPm2 binding site: compliment strand of 4 to 21

(11) Sequence of zinc finger protein ZFPm3 and ZFPm4 binding site m34:

GCC AAC TAC TAC GGC TCC CTC ACC (SEQ ID NO:11)

Total: 21 bp

ZFPm3 binding site: compliment strand of 1 to 18

ZFPm4 binding site: compliment strand of 7 to 24

(12) Partial sequence of pMal-m1 (1-3300 bp) and zinc finger protein ZFPm1 (2719-3270 bp) (SEQ ID NO:14):

ccgacaccatcgaatggtgcaaaacctttcgcggtatggcatgatagcgcccggaagagagtcaattcagggtggt gaatgtgaaaccagtaacgttatacgatgtcgcagagtatgccggtgtctcttatcagaccgtttcccgcgtggtgaaccaggcca gccacgtttctgcgaaaacgcgggaaaaagtggaagcggcgatggcggagctgaattacattcccaaccgcgtggcacaaca actggcgggcaaacagtcgttgctgattggcgttgccacctccagtctggccctgcacgcgccgtcgcaaattgtcgcggcgat taaatctcgcgccgatcaactgggtgccagcgtggtggtgtcgatggtagaacgaagcggcgtcgaagcctgtaaagcggcg gtgcacaatcttctcgcgcaacgcgtcagtgggctgatcattaactatccgctggatgaccaggatgccattgctgtggaagctg cctgcactaatgttccggcgttatttcttgatgtctctgaccagacacccatcaacagtattattttctcccatgaagacggtacgcga ctgggcgtggagcatctggtcgcattgggtcaccagcaaatcgcgctgttagcgggcccattaagttctgtctcggcgcgtctgc gtctggctggctggcataaatatctcactcgcaatcaaattcagccgatagcggaacgggaaggcgactggagtgccatgtccg

gttttcaacaaaccatgcaaatgctgaatgagggcatcgttcccactgcgatgctggttgccaacgatcagatggcgctgggcgc

aatgcgcgccattaccgagtccgggctgcgcgttggtgcggatatctcggtagtgggatacgacgataccgaagacagctcat

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ggccaggcggtgaagggcaatcagctgttgcccgtctcactggtgaaaagaaaaaccaccctggcgcccaatacgcaaaccg

cctctccccgcgcgttggccgattcattaatgcagctggcacgacaggtttcccgactggaaagcgggcagtgagcgcaacgc

aattaatgtgagttagctcactcattaggcacaattctcatgtttgacagcttatcatcgactgcacggtgcaccaatgcttctggcgt

caggcagccatcggaagctgtggtatggctgtgcaggtcgtaaatcactgcataattcgtgtcgctcaaggcgcactcccgttct

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aaattcgagaaagataccggaattaaagtcaccgttgagcatccggataaactggaagagaaattcccacaggttgcggcaact

ggcgatggccctgacattatcttctgggcacacgaccgctttggtggctacgctcaatctggcctgttggctgaaatcaccccgg

acaaagcgttccaggacaagctgtatccgtttacctgggatgccgtacgttacaacggcaagctgattgcttacccgatcgctgtt

gaagcgttatcgctgatttataacaaagatctgctgccgaacccgccaaaaacctgggaagagatcccggcgctggataaagaa

ctgaaagcgaaaggtaagagcgcgctgatgttcaacctgcaagaaccgtacttcacctggccgctgattgctgctgacgggggt

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cgatgaccatcaacggcccgtgggcatggtccaacatcgacaccagcaaagtgaattatggtgtaacggtactgccgaccttca

agggtcaaccatccaaaccgttcgttggcgtgctgagcgcaggtattaacgccgccagtccgaacaaagagctggcaaaaga

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cgcagatgtccgctttctggtatgccgtgcgtactgcggtgatcaacgccgccagcggtcgtcagactgtcgatgaagccctga

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ttcggatcctcttcctctgtggcccaggcggccctcgagcccggggagaagccctatgcttgtccggaatgtggtaagtccttctc

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ccagtccagcaacctggtgcgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttctct

cggtctgacaatctcgtccggcaccaacgtactcacaccggggagaagccctatgcttgtccggaatgtggtaagtccttcagcc

gcagcgataacctggtgcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatcttttagc

caggccggccacctggccagccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttctct

cggtctgacaatctcgtccggcaccaacgtactcacaccggtaaaaaaactagtggccaggccggccagtacccgtacgacgt

tccggactacgct

Total: 514 bp

Primer F1-f1 of ZFPm1: 2770 bp to 2850 bp

Primer F1-f2 of ZFPm1: 2740 bp to 2790 bp

Primer F2-f of ZFPm1: 2867 bp to 2940 bp

Primer F2-b of ZFPm1: 2824 bp to 2889 bp

Primer F3-b1 ZFPm1: 2916 bp to 2973 bp

Primer F3-b2 ZFPm1: 2953 bp to 3021 bp

Primer F4-f1 of ZFPm1: 3022 bp to 3102 bp

Primer F4-f2 of ZFPm1: 2992 bp to 3042 bp

Primer F5-f of ZFPm1: 3119 bp to 3192 bp

Primer F5-b of ZFPm1: 3076 bp to 3141 bp

Primer F6-b1 of ZFPm1: 3168 bp to 3225 bp

Primer F6-b2 of ZFPm1: 3205 bp to 3273 bp

(13) Sequence of zinc finger protein ZFPm1

(Translated from pMal-m1: 2719-3270 bp): **(SEQ ID NO:75)**

Aqaalepgekpyacpecgksfsdpghlvrhqrthtgekpykcpecgksfsqrahlerhqrthtgekpykcpec
gksfsqssnlvrhqrthtgekpyacpecgksfsrsdnlvrhqrthtgekpykcpecgksfsrsdnlvrhqrthtgekpykcpe
cgksfsqaghlashqrthtgkktsgqag

(14) Partial sequence of pMal-m2 (1-3300 bp) and zinc finger protein ZFPm2

(2719-3270 bp) (SEQ ID NO:15):

ccgacaccatcgaatggtgcaaaacctttcgcggtatggcatgatagcgcccggaagagagtcaattcagggtggt
gaatgtgaaaccagtaacgttatacgatgtcgcagagtatgccggtgtctcttatcagaccgtttcccgcgtggtgaaccaggcca
gccacgtttctgcgaaaacgcgggaaaaagtggaagcggcgatggcggagctgaattacattcccaaccgcgtggcacaaca
actggcgggcaaacagtcgttgctgattggcgttgccacctccagtctggccctgcacgcgccgtcgcaaattgtcgcggcgat
taaatctcgcgccgatcaactgggtgccagcgtggtggtgtcgatggtagaacgaagcggcgtcgaagcctgtaaagcggcg
gtgcacaatcttctcgcgcaacgcgtcagtgggctgatcattaactatccgctggatgaccaggatgccattgctgtggaagctg
cctgcactaatgttccggcgttatttcttgatgtctctgaccagacacccatcaacagtattattttctcccatgaagacggtacgcga
ctgggcgtggagcatctggtcgcattgggtcaccagcaaatcgcgctgttagcgggcccattaagttctgtctcggcgcgtctgc

gtctggctggctggcataaatatctcactcgcaatcaaattcagccgatagcggaacgggaaggcgactggagtgccatgtccg
gttttcaacaaaccatgcaaatgctgaatgagggcatcgttcccactgcgatgctggttgccaacgatcagatggcgctgggcgc
aatgcgcgccattaccgagtccgggctgcgcgttggtgcggatatctcggtagtgggatacgacgataccgaagacagctcat
gttatatcccgccgttaaccaccatcaaacaggattttcgcctgctggggcaaaccagcgtggaccgcttgctgcaactctctcag
ggccaggcggtgaagggcaatcagctgttgcccgtctcactggtgaaaagaaaaaccaccctggcgcccaatacgcaaaccg
cctctccccgcgcgttggccgattcattaatgcagctggcacgacaggtttcccgactggaaagcgggcagtgagcgcaacgc
aattaatgtgagttagctcactcattaggcacaattctcatgtttgacagcttatcatcgactgcacggtgcaccaatgcttctggcgt
caggcagccatcggaagctgtggtatggctgtgcaggtcgtaaatcactgcataattcgtgtcgctcaaggcgcactcccgttct
ggataatgtttttttgcgccgacatcataacggttctggcaaatattctgaaatgagctgttgacaattaatcatcggctcgtataatgt
gtggaattgtgagcggataacaatttcacacaggaaacagccagtccgtttaggtgttttcacgagcacttcaccaacaaggacc
atagattatgaaaactgaagaaggtaaactggtaatctggattaacggcgataaaggctataacggtctcgctgaagtcggtaag
aaattcgagaaagataccggaattaaagtcaccgttgagcatccggataaactggaagagaaattcccacaggttgcggcaact
ggcgatggccctgacattatcttctgggcacacgaccgctttggtggctacgctcaatctggcctgttggctgaaatcaccccgg
acaaagcgttccaggacaagctgtatccgtttacctgggatgccgtacgttacaacggcaagctgattgcttacccgatcgctgtt
gaagcgttatcgctgatttataacaaagatctgctgccgaacccgccaaaaacctgggaagagatcccggcgctggataaagaa
ctgaaagcgaaaggtaagagcgcgctgatgttcaacctgcaagaaccgtacttcacctggccgctgattgctgctgacgggggt
tatgcgttcaagtatgaaaacggcaagtacgacattaaagacgtgggcgtggataacgctggcgcgaaagcgggtctgaccttc
ctggttgacctgattaaaaacaaacacatgaatgcagacaccgattactccatcgcagaagctgcctttaataaaggcgaaacag
cgatgaccatcaacggcccgtgggcatggtccaacatcgacaccagcaaagtgaattatggtgtaacggtactgccgaccttca
agggtcaaccatccaaaccgttcgttggcgtgctgagcgcaggtattaacgccgccagtccgaacaaagagctggcaaaaga
gttcctcgaaaactatctgctgactgatgaaggtctggaagcggttaataaagacaaaccgctgggtgccgtagcgctgaagtct
tacgaggaagagttggcgaaagatccacgtattgccgccaccatggaaaacgcccagaaaggtgaaatcatgccgaacatcc
cgcagatgtccgctttctggtatgccgtgcgtactgcggtgatcaacgccgccagcggtcgtcagactgtcgatgaagccctga
aagacgcgcagactaattcgagctcgaacaacaacaacaataacaataacaacaacctcgggatcgagggaaggatttcagaa
ttcggatcctcttcctctgtggcccaggcggccctcgagcccggggagaagccctatgcttgtccggaatgtggtaagtccttctc
tcagagctctcacctggtgcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatcttttag
ccagtccagcaacctggtgcgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttctct
cggtctgacaatctcgtccggcaccaacgtactcacaccggggagaagccctatgcttgtccggaatgtggtaagtccttcagcc
gcagcgataacctggtgcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatcttttagc
caggccggccacctggccagccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttctct

cggtctgacaatctcgtccggcaccaacgtactcacaccggtaaaaaaactagtggccaggccggccagtacccgtacgacgt
tccggactacgct

Total: 514 bp

Primer F1-f1 of ZFPm2: 2770 bp to 2850 bp

Primer F1-f2 of ZFP m2: 2740 bp to 2790 bp

Primer F2-f of ZFP m2: 2867 bp to 2940 bp

Primer F2-b of ZFPm2: 2824 bp to 2889 bp

Primer F3-b1 ZFPm2: 2916 bp to 2973 bp

Primer F3-b2 ZFPm2: 2953 bp to 3021 bp

Primer F4-f1 of ZFPm2: 3022 bp to 3102 bp

Primer F4-f2 of ZFPm2: 2992 bp to 3042 bp

Primer F5-f of ZFPm2: 3119 bp to 3192 bp

Primer F5-b of ZFPm2: 3076 bp to 3141 bp

Primer F6-b1 of ZFPm2: 3168 bp to 3225 bp

Primer F6-b2 of ZFPm2: 3205 bp to 3273 bp

(15) Partial sequence of pMal-m3 (1-3300 bp) and zinc finger protein ZFPm3 (2719-3270 bp) (SEQ ID NO:16):

ccgacaccatcgaatggtgcaaaacctttcgcggtatggcatgatagcgcccggaagagagtcaattcagggtggt
gaatgtgaaaccagtaacgttatacgatgtcgcagagtatgccggtgtctcttatcagaccgtttcccgcgtggtgaaccaggcca
gccacgtttctgcgaaaacgcgggaaaaagtggaagcggcgatggcggagctgaattacattcccaaccgcgtggcacaaca
actggcgggcaaacagtcgttgctgattggcgttgccacctccagtctggccctgcacgcgccgtcgcaaattgtcgcggcgat
taaatctcgcgccgatcaactgggtgccagcgtggtggtgtcgatggtagaacgaagcggcgtcgaagcctgtaaagcggcg
gtgcacaatcttctcgcgcaacgcgtcagtgggctgatcattaactatccgctggatgaccaggatgccattgctgtggaagctg
cctgcactaatgttccggcgttatttcttgatgtctctgaccagacacccatcaacagtattattttctcccatgaagacggtacgcga
ctgggcgtggagcatctggtcgcattgggtcaccagcaaatcgcgctgttagcgggcccattaagttctgtctcggcgcgtctgc
gtctggctggctggcataaatatctcactcgcaatcaaattcagccgatagcggaacgggaaggcgactggagtgccatgtccg
gttttcaacaaaccatgcaaatgctgaatgagggcatcgttcccactgcgatgctggttgccaacgatcagatggcgctgggcgc
aatgcgcgccattaccgagtccgggctgcgcgttggtgcggatatctcggtagtgggatacgacgataccgaagacagctcat
gttatatcccgccgttaaccaccatcaaacaggattttcgcctgctggggcaaaccagcgtggaccgcttgctgcaactctctcag

ggccaggcggtgaagggcaatcagctgttgcccgtctcactggtgaaaagaaaaaccaccctggcgcccaatacgcaaaccg
cctctccccgcgcgttggccgattcattaatgcagctggcacgacaggtttcccgactggaaagcgggcagtgagcgcaacgc
aattaatgtgagttagctcactcattaggcacaattctcatgtttgacagcttatcatcgactgcacggtgcaccaatgcttctggcgt
caggcagccatcggaagctgtggtatggctgtgcaggtcgtaaatcactgcataattcgtgtcgctcaaggcgcactcccgttct
ggataatgtttttttgcgccgacatcataacggttctggcaaatattctgaaatgagctgttgacaattaatcatcggctcgtataatgt
gtggaattgtgagcggataacaatttcacacaggaaacagccagtccgtttaggtgttttcacgagcacttcaccaacaaggacc
atagattatgaaaactgaagaaggtaaactggtaatctggattaacggcgataaaggctataacggtctcgctgaagtcggtaag
aaattcgagaaagataccggaattaaagtcaccgttgagcatccggataaactggaagagaaattcccacaggttgcggcaact
ggcgatggccctgacattatcttctgggcacacgaccgctttggtggctacgctcaatctggcctgttggctgaaatcaccccgg
acaaagcgttccaggacaagctgtatccgtttacctgggatgccgtacgttacaacggcaagctgattgcttacccgatcgctgtt
gaagcgttatcgctgatttataacaaagatctgctgccgaacccgccaaaaacctgggaagagatcccggcgctggataaagaa
ctgaaagcgaaaggtaagagcgcgctgatgttcaacctgcaagaaccgtacttcacctggccgctgattgctgctgacgggggt
tatgcgttcaagtatgaaaacggcaagtacgacattaaagacgtgggcgtggataacgctggcgcgaaagcgggtctgaccttc
ctggttgacctgattaaaaacaaacacatgaatgcagacaccgattactccatcgcagaagctgcctttaataaaggcgaaacag
cgatgaccatcaacggcccgtgggcatggtccaacatcgacaccagcaaagtgaattatggtgtaacggtactgccgaccttca
agggtcaaccatccaaaccgttcgttggcgtgctgagcgcaggtattaacgccgccagtccgaacaaagagctggcaaaaga
gttcctcgaaaactatctgctgactgatgaaggtctggaagcggttaataaagacaaaccgctgggtgccgtagcgctgaagtct
tacgaggaagagttggcgaaagatccacgtattgccgccaccatggaaaacgcccagaaaggtgaaatcatgccgaacatcc
cgcagatgtccgctttctggtatgccgtgcgtactgcggtgatcaacgccgccagcggtcgtcagactgtcgatgaagccctga
aagacgcgcagactaattcgagctcgaacaacaacaacaataacaataacaacaacctcgggatcgagggaaggatttcagaa
ttcggatcctcttcctctgtggcccaggcggccctcgagcccggggagaagccctatgcttgtccggaatgtggtaagtccttca
gcgatcctggccacctggttcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatctttta
gcaccagcggctccctggtgcgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttca
gccagagctccagcctggtgcgccaccaacgtactcacaccggggagaagccctatgcttgtccggaatgtggtaagtccttca
gccagagcagctccctggtgcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatctttt
agtgactgccgcgaccttgctcgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttct
cccaatccagccatctcgtccggcaccaacgtactcacaccggtaaaaaaactagtggccaggccggccagtacccgtacgac
gttccggactacgct

Total: 514 bp

Primer F1-f1 of ZFPm3: 2770 bp to 2850 bp

Primer F1-f2 of ZFP m3: 2740 bp to 2790 bp

Primer F2-f of ZFP m3: 2867 bp to 2940 bp

Primer F2-b of ZFPm3: 2824 bp to 2889 bp

Primer F3-b1 ZFPm3: 2916 bp to 2973 bp

Primer F3-b2 ZFPm3: 2953 bp to 3021 bp

Primer F4-f1 of ZFPm3: 3022 bp to 3102 bp

Primer F4-f2 of ZFPm3: 2992 bp to 3042 bp

Primer F5-f of ZFPm3: 3119 bp to 3192 bp

Primer F5-b of ZFPm3: 3076 bp to 3141 bp

Primer F6-b1 of ZFPm3: 3168 bp to 3225 bp

Primer F6-b2 of ZFPm3: 3205 bp to 3273 bp

(16) Partial sequence of pMal-m4 (1-3300 bp) and zinc finger protein ZFPm4 (2719-3270 bp) (SEQ ID NO:17):

ccgacaccatcgaatggtgcaaaacctttcgcggtatggcatgatagcgcccggaagagagtcaattcagggtggt
gaatgtgaaaccagtaacgttatacgatgtcgcagagtatgccggtgtctcttatcagaccgtttcccgcgtggtgaaccaggcca
gccacgtttctgcgaaaacgcgggaaaaagtggaagcggcgatggcggagctgaattacattcccaaccgcgtggcacaaca
actggcgggcaaacagtcgttgctgattggcgttgccacctccagtctggccctgcacgcgccgtcgcaaattgtcgcggcgat
taaatctcgcgccgatcaactgggtgccagcgtggtggtgtcgatggtagaacgaagcggcgtcgaagcctgtaaagcggcg
gtgcacaatcttctcgcgcaacgcgtcagtgggctgatcattaactatccgctggatgaccaggatgccattgctgtggaagctg
cctgcactaatgttccggcgttatttcttgatgtctctgaccagacacccatcaacagtattattttctcccatgaagacggtacgcga
ctgggcgtggagcatctggtcgcattgggtcaccagcaaatcgcgctgttagcgggcccattaagttctgtctcggcgcgtctgc
gtctggctggctggcataaatatctcactcgcaatcaaattcagccgatagcggaacgggaaggcgactggagtgccatgtccg
gttttcaacaaaccatgcaaatgctgaatgagggcatcgttcccactgcgatgctggttgccaacgatcagatggcgctgggcgc
aatgcgcgccattaccgagtccgggctgcgcgttggtgcggatatctcggtagtgggatacgacgataccgaagacagctcat
gttatatcccgccgttaaccaccatcaaacaggattttcgcctgctggggcaaaccagcgtggaccgcttgctgcaactctctcag
ggccaggcggtgaagggcaatcagctgttgcccgtctcactggtgaaaagaaaaaccaccctggcgcccaatacgcaaaccg
cctctccccgcgcgttggccgattcattaatgcagctggcacgacaggtttcccgactggaaagcgggcagtgagcgcaacgc
aattaatgtgagttagctcactcattaggcacaattctcatgtttgacagcttatcatcgactgcacggtgcaccaatgcttctggcgt
caggcagccatcggaagctgtggtatggctgtgcaggtcgtaaatcactgcataattcgtgtcgctcaaggcgcactcccgttct
ggataatgtttttgcgccgacatcataacggttctggcaaatattctgaaatgagctgttgacaattaatcatcggctcgtataatgt

gtggaattgtgagcggataacaatttcacacaggaaacagccagtccgtttaggtgttttcacgagcacttcaccaacaaggacc
atagattatgaaaactgaagaaggtaaactggtaatctggattaacggcgataaaggctataacggtctcgctgaagtcggtaag
aaattcgagaaagataccggaattaaagtcaccgttgagcatccggataaactggaagagaaattcccacaggttgcggcaact
ggcgatggccctgacattatcttctgggcacacgaccgctttggtggctacgctcaatctggcctgttggctgaaatcaccccgg
acaaagcgttccaggacaagctgtatccgtttacctgggatgccgtacgttacaacggcaagctgattgcttacccgatcgctgtt
gaagcgttatcgctgatttataacaaagatctgctgccgaacccgccaaaaacctgggaagagatcccggcgctggataaagaa
ctgaaagcgaaaggtaagagcgcgctgatgttcaacctgcaagaaccgtacttcacctggccgctgattgctgctgacgggggt
tatgcgttcaagtatgaaaacggcaagtacgacattaaagacgtgggcgtggataacgctggcgcgaaagcgggtctgaccttc
ctggttgacctgattaaaaacaaacacatgaatgcagacaccgattactccatcgcagaagctgcctttaataaaggcgaaacag
cgatgaccatcaacggcccgtgggcatggtccaacatcgacaccagcaaagtgaattatggtgtaacggtactgccgaccttca
agggtcaaccatccaaaccgttcgttggcgtgctgagcgcaggtattaacgccgccagtccgaacaaagagctggcaaaaga
gttcctcgaaaactatctgctgactgatgaaggtctggaagcggttaataaagacaaaccgctgggtgccgtagcgctgaagtct
tacgaggaagagttggcgaaagatccacgtattgccgccaccatggaaaacgcccagaaaggtgaaatcatgccgaacatcc
cgcagatgtccgctttctggtatgccgtgcgtactgcggtgatcaacgccgccagcggtcgtcagactgtcgatgaagccctga
aagacgcgcagactaattcgagctcgaacaacaacaacaataacaataacaacaacctcgggatcgagggaaggatttcagaa
ttcggatcctcttcctctgtggcccaggcggccctcgagcccggggagaagccctatgcttgtccggaatgtggtaagtccttca
gccagagcagctccctggtgcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatctttt
agccagagcagcagcctggtgcgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttc
agtgattgtcgtgatcttgcgaggcaccaacgtactcacaccggggagaagccctatgcttgtccggaatgtggtaagtccttctc
tcagagctctcacctggtgcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatcttttag
ccgcagcgataacctggtgcgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttctca
acttcaggccatttggtccgtcaccaacgtactcacaccggtaaaaaaactagtggccaggccggccagtacccgtacgacgtt
ccggactacgct

Total: 514 bp

Primer F1-f1 of ZFPm4: 2770 bp to 2850 bp

Primer F1-f2 of ZFPm4: 2740 bp to 2790 bp

Primer F2-f of ZFPm4: 2867 bp to 2940 bp

Primer F2-b of ZFPm4: 2824 bp to 2889 bp

Primer F3-b1 ZFPm4: 2916 bp to 2973 bp

Primer F3-b2 ZFPm4: 2953 bp to 3021 bp

Primer F4-f1 of ZFPm4: 3022 bp to 3102 bp

Primer F4-f2 of ZFPm4: 2992 bp to 3042 bp

Primer F5-f of ZFPm4: 3119 bp to 3192 bp

Primer F5-b of ZFPm4: 3076 bp to 3141 bp

Primer F6-b1 of ZFPm4: 3168 bp to 3225 bp

Primer F6-b2 of ZFPm4: 3205 bp to 3273 bp

(17) Partial sequence of pMal-Ap3 (1-3300 bp) and zinc finger protein ZFPAp3 (2719-3270 bp) (SEQ ID NO:18):

ccgacaccatcgaatggtgcaaaacctttcgcggtatggcatgatagcgcccggaagagagtcaattcagggtggt
gaatgtgaaaccagtaacgttatacgatgtcgcagagtatgccggtgtctcttatcagaccgtttcccgcgtggtgaaccaggcca
gccacgtttctgcgaaaacgcgggaaaaagtggaagcggcgatggcggagctgaattacattcccaaccgcgtggcacaaca
actggcgggcaaacagtcgttgctgattggcgttgccacctccagtctggccctgcacgcgccgtcgcaaattgtcgcggcgat
taaatctcgcgccgatcaactgggtgccagcgtggtggtgtcgatggtagaacgaagcggcgtcgaagcctgtaaagcggcg
gtgcacaatcttctcgcgcaacgcgtcagtgggctgatcattaactatccgctggatgaccaggatgccattgctgtggaagctg
cctgcactaatgttccggcgttatttcttgatgtctctgaccagacacccatcaacagtattattttctcccatgaagacggtacgcga
ctgggcgtggagcatctggtcgcattgggtcaccagcaaatcgcgctgttagcgggcccattaagttctgtctcggcgcgtctgc
gtctggctggctggcataaatatctcactcgcaatcaaattcagccgatagcggaacgggaaggcgactggagtgccatgtccg
gttttcaacaaaccatgcaaatgctgaatgagggcatcgttcccactgcgatgctggttgccaacgatcagatggcgctgggcgc
aatgcgcgccattaccgagtccgggctgcgcgttggtgcggatatctcggtagtgggatacgacgataccgaagacagctcat
gttatatcccgccgttaaccaccatcaaacaggattttcgcctgctggggcaaaccagcgtggaccgcttgctgcaactctctcag
ggccaggcggtgaagggcaatcagctgttgcccgtctcactggtgaaaagaaaaaccaccctggcgcccaatacgcaaaccg
cctctccccgcgcgttggccgattcattaatgcagctggcacgacaggtttcccgactggaaagcgggcagtgagcgcaacgc
aattaatgtgagttagctcactcattaggcacaattctcatgtttgacagcttatcatcgactgcacggtgcaccaatgcttctggcgt
caggcagccatcggaagctgtggtatggctgtgcaggtcgtaaatcactgcataattcgtgtcgctcaaggcgcactcccgttct
ggataatgtttttgcgccgacatcataacggttctggcaaatattctgaaatgagctgttgacaattaatcatcggctcgtataatgt
gtggaattgtgagcggataacaatttcacacaggaaacagccagtccgtttaggtgttttcacgagcacttcaccaacaaggacc
atagattatgaaaactgaagaaggtaaactggtaatctggattaacggcgataaaggctataacggtctcgctgaagtcggtaag
aaattcgagaaagataccggaattaaagtcaccgttgagcatccggataaactggaagagaaattcccacaggttgcggcaact
ggcgatggccctgacattatcttctgggcacacgaccgctttggtggctacgctcaatctggcctgttggctgaaatcaccccgg
acaaagcgttccaggacaagctgtatccgtttacctgggatgccgtacgttacaacggcaagctgattgcttacccgatcgctgtt

gaagcgttatcgctgatttataacaaagatctgctgccgaacccgccaaaaacctgggaagagatcccggcgctggataaagaa
ctgaaagcgaaaggtaagagcgcgctgatgttcaacctgcaagaaccgtacttcacctggccgctgattgctgctgacgggggt
tatgcgttcaagtatgaaaacggcaagtacgacattaaagacgtgggcgtggataacgctggcgcgaaagcgggtctgaccttc
ctggttgacctgattaaaaacaaacacatgaatgcagacaccgattactccatcgcagaagctgcctttaataaaggcgaaacag
cgatgaccatcaacggcccgtgggcatggtccaacatcgacaccagcaaagtgaattatggtgtaacggtactgccgaccttca
agggtcaaccatccaaaccgttcgttggcgtgctgagcgcaggtattaacgccgccagtccgaacaaagagctggcaaaaga
gttcctcgaaaactatctgctgactgatgaaggtctggaagcggttaataaagacaaaccgctgggtgccgtagcgctgaagtct
tacgaggaagagttggcgaaagatccacgtattgccgccaccatggaaaacgcccagaaaggtgaaatcatgccgaacatcc
cgcagatgtccgctttctggtatgccgtgcgtactgcggtgatcaacgccgccagcggtcgtcagactgtcgatgaagccctga
aagacgcgcagactaattcgagctcgaacaacaacaacaataacaataacaacaacctcgggatcgagggaaggatttcagaa
ttcggatcctcttcctctgtggcccaggcggccctcgagcccggggagaagccctatgcttgtccggaatgtggtaagtccttca
gccagagcagctccctggtgcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatctttt
agccagtccagcaacctggtgcgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttc
agccagtccagcaacctggtgcgccaccaacgtactcacaccggggagaagccctatgcttgtccggaatgtggtaagtccttc
agcaccagtggctccttggttagacaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatctttt
agccagcgcgcccacctggaacgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtcttt
ctcaacttcaggcaacttggtccgtcaccaacgtactcacaccggtaaaaaaactagtggccaggccggccagtacccgtacga
cgttccggactacgct

Total: 514 bp

Primer F1-f1 of ZFPAp3: 2770 bp to 2850 bp

Primer F1-f2 of ZFPAp3: 2740 bp to 2790 bp

Primer F2-f of ZFPAp3: 2867 bp to 2940 bp

Primer F2-b of ZFPAp3: 2824 bp to 2889 bp

Primer F3-b1 ZFPAp3: 2916 bp to 2973 bp

Primer F3-b2 ZFPAp3: 2953 bp to 3021 bp

Primer F4-f1 of ZFPAp3: 3022 bp to 3102 bp

Primer F4-f2 of ZFPAp3: 2992 bp to 3042 bp

Primer F5-f of ZFPAp3: 3119 bp to 3192 bp

Primer F5-b of ZFPAp3: 3076 bp to 3141 bp

Primer F6-b1 of ZFPAp3: 3168 bp to 3225 bp

Primer F6-b2 of ZFPAp3: 3205 bp to 3273 bp

(18) Sequence of oligo m12 (SEQ ID NO:19):

Biotin-GGa gcc tcc ttc ctc ctc tca ctc GGG TTTT CCC gag tga gag gag gaa gga ggc tCC

Total: 58 bp

Lower case sequence: ZFPm1 and ZFPm2 binding site m12

(19) Sequence of oligo m34 (SEQ ID NO:20):

Biotin-GGa gcc aac tac tac ggc tcc ctc acc GGG TTTT CCC ggt gag gga gcc gta gta gtt ggc tCC

Total: 58 bp

Lower case sequence: ZFPm3 and ZFPm4 binding site m34

(20) Sequence of oligo Ap3 (SEQ ID NO:21):

Biotin-GGt tac ttc ttc aac tcc atc GGG TTTT CCC gat gga gtt gaa gaa gta aCC

Total: 52 bp

Lower case sequence: ZFPAp3 binding site

(21) Sequence of oligo NRI-1 (SEQ ID NO:22):

Biotin-GG ttc tac ccc tcc cac cgc GGG TTTT CCC gcg gtg gga ggg gta gaa CC

Total: 51 bp

(22) Sequence of oligo NRI-2 (SEQ ID NO:23):

Biotin-GG tgc ggc gac tgc agc agc GGG TTTT CCC gct gct gca gtc gcc gca CC

Total: 51 bp

(23) Sequence of oligo hHD-I (SEQ ID NO:24):

Biotin-GG ggc ccc gcc tcc gcc ggc GGG TTTT CCC gcc ggc gga ggc ggg gcc CC

Total: 51 bp

(24) Sequence of oligo hHD-II (SEQ ID NO:25):

Biotin-GG ggc agc ccc cac ggc gcc GGG TTTT CCC ggc gcc gtg ggg gct gcc CC

Total: 51 bp

(25) Sequence of oligo c5p1-g (SEQ ID NO:26):

Biotin-GG gac acc ccc aac ccc gcc GGG TTTT CCC ggc ggg gtt ggg ggt gtc CC

Total: 51 bp

(26) Sequence of oligo c5p3-g (SEQ ID NO:27):

Biotin-GG ctc tgc tca tcc cac tac GGG TTTT CCC gta gtg gga tga gca gag CC

Total: 51 bp

(27) Sequence of oligo B3c2 (SEQ ID NO:28):

Biotin-GG acc cac cgc gtc ccc tcc GGG TTTT CCC gga ggg gac gcg gtg ggt CC

Total: 51 bp

(28) Sequence of oligo e2c-g (SEQ ID NO:29):

Biotin-GG cac tgc ggc tcc ggc ccc GGG TTTT CCC ggg gcc gga gcc gca gtg CC

Total: 51 bp

(29) Sequence of primer Ap3-F (SEQ ID NO:30):

GGCGAGAGGGAAGATCCAG

Total: 19 bp

(30) Sequence of primer NZlib5' (SEQ ID NO:31):

GGCCCAGGCGGCCCTCGAGC

Total: 20 bp

(31) Sequence of primer Ap3f4-R (SEQ ID NO:32):

CTCCTCTAATACGACTCACTATAGGGACACTCACCTAGCCTCTG

Total: 44 bp

(32) Sequence of primer m4f3-R (SEQ ID NO:33):

CCTCGCAAGATCACGACAATC

Total: 21 bp

(33) Sequence of quantitative PCR probe for AP3 (SEQ ID NO:34):

CCATTTCATCCTCAAGACGACGCAGCT

Total: 27 bp

(34) Sequence of quantitative PCR primer for AP3 (Forward) (SEQ ID NO:35):

TTTGGACGAGCTTGACATTCAG

Total: 22 bp

(35) Sequence of quantitative PCR primer for AP3 (Reverse) (SEQ ID NO:36):

CGCGAACGAGTTTGAAAGTG

Total: 20 bp

(36) Sequence of 2C7-SID (Figure 3) (SEQ ID NO:66):

gacggatcgggagatctcccgatcccctatggtcgactctcagtacaatctgctctgatgccgcatagttaagccagta
tctgctccctgcttgtgtgttggaggtcgctgagtagtgcgcgagcaaaatttaagctacaacaaggcaaggcttgaccgacaatt
gcatgaagaatctgcttagggttaggcgttttgcgctgcttcgcgatgtacgggccagatatacgcgttgacattgattattgacta
gttattaatagtaatcaattacggggtcattagttcatagcccatatatggagttccgcgttacataacttacggtaaatggcccgcct
ggctgaccgcccaacgacccccgcccattgacgtcaataatgacgtatgttcccatagtaacgccaatagggactttccattgac
gtcaatgggtggactatttacggtaaactgcccacttggcagtacatcaagtgtatcatatgccaagtacgccccctattgacgtca
atgacggtaaatggcccgcctggcattatgcccagtacatgaccttatgggactttcctacttggcagtacatctacgtattagtcat
cgctattaccatggtgatgcggttttggcagtacatcaatgggcgtggatagcggtttgactcacggggatttccaagtctccacc
ccattgacgtcaatgggagtttgttttggcaccaaaatcaacgggactttccaaaatgtcgtaacaactccgccccattgacgcaa
atgggcggtaggcgtgtacggtgggaggtctatataagcagagctctctggctaactagagaacccactgcttactggcttatcg
aaattaatacgactcactatagggagacccaagctggctagcatggccgctgccgtgcgcatgaacatccagatgctgctcgaa
gccgctgattatctggaacgccgggagcgcgaagccgagcacggctacgccagcatgctgccatatccgaaaaagaaacgc
aaggtggcccaggcggccctcgagccctatgcttgccctgtcgagtcctgcgatcgccgcttttctaagtcggctgatctgaagc
gccatatccgcatccacacaggccagaagcccttccagtgtcgaatatgcatgcgtaacttcagtcgtagtgaccaccttaccac
ccacatccgcacccacacaggcgagaagccttttgcctgtgacatttgtgggaggaagtttgccaggagtgatgaacgcaaga
ggcataccaaaatccataccggtgagaagccctatgcttgccctgtcgagtcctgcgatcgccgcttttctaagtcggctgatctg
aagcgccatatccgcatccacacaggccagaagcccttccagtgtcgaatatgcatgcgtaacttcagtcgtagtgaccaccttа
ccacccacatccgcacccacacaggcgagaagccttttgcctgtgacatttgtgggaggaagtttgccaggagtgatgaacgca
agaggcataccaaaatccatttaagacagaaggactctagaactagtggccaggccggccagtacccgtacgacgttccggac

tacgcttcttgaaagcttggtaccgagctcggatccactagtccagtgtggtggaattctgcagatatccagcacagtggcggcc
gctcgagtctagagggcccgtttaaacccgctgatcagcctcgactgtgccttctagttgccagccatctgttgtttgcccctcccc
cgtgccttccttgaccctggaaggtgccactcccactgtcctttcctaataaaatgaggaaattgcatcgcattgtctgagtaggtgt
cattctattctgggggggtggggtggggcaggacagcaaggggaggattgggaagacaatagcaggcatgctggggatgcg
gtgggctctatggcttctgaggcggaaagaaccagctggggctctaggggtatccccacgcgccctgtagcggcgcattaag
cgcggcgggtgtggtggttacgcgcagcgtgaccgctacacttgccagcgccctagcgcccgctcctttcgctttcttcccttcct
ttctcgccacgttcgccggctttccccgtcaagctctaaatcggggcatcccttagggttccgatttagtgctttacggcacctcga
ccccaaaaaacttgattagggtgatggttcacgtagtgggccatcgccctgatagacggtttttcgccctttgacgttggagtccac
gttctttaatagtggactcttgttccaaactggaacaacactcaaccctatctcggtctattcttttgatttataagggatttggggattt
cggcctattggttaaaaaatgagctgatttaacaaaaatttaacgcgaattaattctgtggaatgtgtgtcagttagggtgtggaaag
tccccaggctccccaggcaggcagaagtatgcaaagcatgcatctcaattagtcagcaaccaggtgtggaaagtccccaggct
ccccagcaggcagaagtatgcaaagcatgcatctcaattagtcagcaaccatagtcccgcccctaactccgcccatcccgcccc
taactccgcccagttccgcccattctccgccccatggctgactaatttttttatttatgcagaggccgaggccgcctctgcctctga
gctattccagaagtagtgaggaggctttttggaggcctaggcttttgcaaaaagctcccgggagcttgtatatccattttcggatct
gatcagcacgtgttgacaattaatcatcggcatagtatatcggcatagtataatacgacaaggtgaggaactaaaccatggccaa
gttgaccagtgccgttccggtgctcaccgcgcgcgacgtcgccggagcggtcgagttctggaccgaccggctcgggttctccc
gggacttcgtggaggacgacttcgccggtgtggtccgggacgacgtgaccctgttcatcagcgcggtccaggaccaggtggt
gccggacaacaccctggcctgggtgtgggtgcgcggcctggacgagctgtacgccgagtggtcggaggtcgtgtccacgaa
cttccgggacgcctccgggccggccatgaccgagatcggcgagcagccgtgggggcgggagttcgccctgcgcgacccgg
ccggcaactgcgtgcacttcgtggccgaggagcaggactgacacgtgctacgagatttcgattccaccgccgccttctatgaaa
ggttgggcttcggaatcgttttccgggacgccggctggatgatcctccagcgcggggatctcatgctggagttcttcgcccaccc
caacttgtttattgcagcttataatggttacaaataaagcaatagcatcacaaatttcacaaataaagcatttttttcactgcattctagtt
gtggtttgtccaaactcatcaatgtatcttatcatgtctgtataccgtcgacctctagctagagcttggcgtaatcatggtcatagctgt
ttcctgtgtgaaattgttatccgctcacaattccacacaacatacgagccggaagcataaagtgtaaagcctggggtgcctaatga
gtgagctaactcacattaattgcgttgcgctcactgcccgctttccagtcgggaaacctgtcgtgccagctgcattaatgaatcggc
caacgcgcggggagaggcggtttgcgtattgggcgctcttccgcttcctcgctcactgactcgctgcgctcggtcgttcggctgc
ggcgagcggtatcagctcactcaaaggcggtaatacggttatccacagaatcaggggataacgcaggaaagaacatgtgagc
aaaaggccagcaaaaggccaggaaccgtaaaaggccgcgttgctggcgtttttccataggctccgccccccctgacgagcatc
acaaaaatcgacgctcaagtcagaggtggcgaaacccgacaggactataaagataccaggcgtttccccctggaagctccctc
gtgcgctctcctgttccgaccctgccgcttaccggatacctgtccgcctttctcccttcgggaagcgtggcgctttctcaatgctca
cgctgtaggtatctcagttcggtgtaggtcgttcgctccaagctgggctgtgtgcacgaacccccgttcagcccgaccgctgcg
ccttatccggtaactatcgtcttgagtccaacccggtaagacacgacttatcgccactggcagcagccactggtaacaggattag
cagagcgaggtatgtaggcggtgctacagagttcttgaagtggtggcctaactacggctacactagaaggacagtatttggtatc
tgcgctctgctgaagccagttaccttcggaaaaagagttggtagctcttgatccggcaaacaaaccaccgctggtagcggtggtt
tttttgtttgcaagcagcagattacgcgcagaaaaaaaggatctcaagaagatcctttgatcttttctacggggtctgacgctcagtg
gaacgaaaactcacgttaagggattttggtcatgagattatcaaaaaggatcttcacctagatccttttaaattaaaaatgaagtttta
aatcaatctaaagtatatatgagtaaacttggtctgacagttaccaatgcttaatcagtgaggcacctatctcagcgatctgtctatttc
gttcatccatagttgcctgactccccgtcgtgtagataactacgatacgggagggcttaccatctggccccagtgctgcaatgata
ccgcgagacccacgctcaccggctccagatttatcagcaataaaccagccagccggaagggccgagcgcagaagtggtcct
gcaactttatccgcctccatccagtctattaattgttgccgggaagctagagtaagtagttcgccagttaatagtttgcgcaacgttgt
tgccattgctacaggcatcgtggtgtcacgctcgtcgtttggtatggcttcattcagctccggttcccaacgatcaaggcgagttac
atgatccccatgttgtgcaaaaaagcggttagctccttcggtcctccgatcgttgtcagaagtaagttggccgcagtgttatcact
catggttatggcagcactgcataattctcttactgtcatgccatccgtaagatgcttttctgtgactggtgagtactcaaccaagtcatt
ctgagaatagtgtatgcggcgaccgagttgctcttgcccggcgtcaatacgggataataccgcgccacatagcagaactttaaaa
gtgctcatcattggaaaacgttcttcggggcgaaaactctcaaggatcttaccgctgttgagatccagttcgatgtaacccactcgt
gcacccaactgatcttcagcatcttttactttcaccagcgtttctgggtgagcaaaaacaggaaggcaaaatgccgcaaaaaagg

gaataagggcgacacggaaatgttgaatactcatactcttccttttcaatattattgaagcatttatcagggttattgtctcatgagcg
gatacatatttgaatgtatttagaaaaataaacaaatagggggttccgcgcacatttccccgaaaagtgccacctgacgtc

Figure 24

(1) Sequence of promoter CsVMV (Example 1A) (SEQ ID NO:1):

Tctagaaactagcttccagaaggtaattatccaagatgtagcatcaagaatccaatgtttacgggaaaaactatggaa
gtattatgtgagctcagcaagaagcagatcaatatgcggcacatatgcaacctatgttcaaaaatgaagaatgtacagatacaag
atcctatactgccagaatacgaagaagaatacgtagaaattgaaaaagaagaaccaggcgaagaaaagaatcttgaagacgta
agcactgacgacaacaatgaaaagaagaagataaggtcggtgattgtgaaagagacatagaggacacatgtaaggtggaaaa
tgtaagggcggaaagtaaccttatcacaaaggaatcttatcccccactacttatccttttatatttttccgtgtcatttttgcccttgagtt
ttcctatataaggaaccaagttcggcatttgtgaaaacaagaaaaaatttggtgtaagctattttctttgaagtactgaggatacaact
tcagagaaatttgtaagtttgta

Total 531 bp

(2) Sequence of zinc finger protein 2C7 binding site (Example 1A) (SEQ ID NO:2):

GCG TGG GCG GCG TGG GCG

Total 18 bp.

(3) Sequence of promoter pc7rbTATA (Example 1A) (SEQ ID NO:3):

Cccgggtatataataagcttggcattccggtactgttggtaaagccaccat

Total 51 bp.

(4) Sequence of pND3008 coding region (Example1B) (SEQ ID NO:4):

agcgtgacccggtcgtgcccctctctagagataatgagcattgcatgtctaagttataaaaaattaccacatatttttttg
tcacacttgtttgaagtgcagtttatctatctttatacatatatttaaactttactctacgaataatataatctatagtactacaataatatca
gtgttttagagaatcatataaatgaacagttagacatggtctaaaggacaattgagtattttgacaacaggactctacagttttatcttt
ttagtgtgcatgtgttctccttttttttgcaaatagcttcacctatataatacttcatccattttattagtacatccatttagggtttagggtt
aatggtttttatagactaatttttttagtacatctattttattctattttagcctctaaattaagaaaactaaaactctattttagtttttttattta
ataatttagatataaaatagaataaaataaagtgactaaaaattaaacaaataccctttaagaaattaaaaaaactaaggaaacatttt
tcttgtttcgagtagataatgccagcctgttaaacgccgtcgacgagtctaacggacaccaaccagcgaaccagcagcgtcgcg
tcgggccaagcgaagcagacggcacggcatctctgtcgctgcctctggacccctctcgagagttccgctccaccgttggacttg
ctccgctgtcggcatccagaaattgcgtggcggagcggcagacgtgagccggcacggcaggcggcctcctcctcctctcacg
gcacggcagctacgggggattcctttcccaccgctccttcgctttcccttcctcgcccgccgtaataaatagacacccctccaca

ccctctttccccaacctcgtgttgttcggagcgcacacacacacaaccagatctcccccaaatccacccgtcggcacctccgctt
caaggtacgccgctcgtcctcccccccccccccctctctaccttctctagatcggcgttccggtccatggttagggcccggtagttc
tacttctgttcatgtttgtgttagatccgtgtttgtgttagatccgtgctgctagcgttcgtacacggatgcgacctgtacgtcagacac
gttctgattgctaacttgccagtgtttctctttgggggaatcctgggatggctctagccgttccgcagacgggatcgatttcatgatttt
tttgtttcgttgcatagggtttggtttgccctttttcctttatttcaatatatgccgtgcacttgtttgtcgggtcatcttttcatgctttttttgt
cttggttgtgatgatgtggtctggttgggcggtcgttctagatcggagtagaattctgtttcaaactacctggtggatttattaattttgg
atctgtatgtgtgtgccatacatattcatagttacgaattgaagatgatggatggaaatatcgatctaggataggtatacatgttgatg
cgggttttactgatgcatatacagagatgctttttgttcgcttggttgtgatgatgtggtgtggttgggcggtcgttcattcgttctagat
cggagtagaatactgtttcaaactacctggtgtatttattaattttggaactgtatgtgtgtgtcatacatcttcatagttacgagtttaag
atggatggaaatatcgatctaggataggtatacatgttgatgtgggttttactgatgcatatacatgatggcatatgcagcatctattc
atatgctctaaccttgagtacctatctattataataaacaagtatgttttataattattttgatcttgatatacttggatgatggcatatgca
gcagctatatgtggatttttttagccctgccttcatacgctatttatttgcttggtactgtttcttttgtcgatgctcaccctgttgtttggtgt
tacttctgcaggtcgactctagaggatctatggcccaggcggccctcgagctcccctatgcttgccctgtcgagtcctgcgatcgc
cgcttttctaagtcggctgatctgaagcgccatatccgcatccacacaggccagaagcccttccagtgtcgaatatgcatgcgtaa
cttcagtcgtagtgaccaccttaccacccacatccgcacccacacaggcgagaagccttttgcctgtgacatttgtgggaggaag
tttgccaggagtgatgaacgcaagaggcataccaaaatccataccggtgagaagccctatgcttgccctgtcgagtcctgcgatc
gccgcttttctaagtcggctgatctgaagcgccatatccgcatccacacaggccagaagcccttccagtgtcgaatatgcatgcgt
aacttcagtcgtagtgaccaccttaccacccacatccgcacccacacaggcgagaagccttttgcctgtgacatttgtgggagga
agtttgccaggagtgatgaacgcaagaggcataccaaaatccatttaagacagaaggactctagaactagtggccaggccggc
caggctagcccgaaaaagaaacgcaaagttgggcgcgccgacgcgctggacgatttcgatctcgacatgctgggttctgatgc
cctcgatgactttgacctggatatgttgggaagcgacgcattggatgactttgatctggacatgctcggctccgatgctctggacg
atttcgatctcgatatgttaattaactacccgtacgacgttccggactacgcttcttgagaattcgcggccgcgggcccgagcctag
ggaggagctcaagatcccccgaatttccccgatcgttcaaacatttggcaataaagtttcttaagattgaatcctgttgccggtcttg
cgatgattatcatctaatttctgttgaattacgttaagcatgtaataattaacatgtaatgcatgacgttatttatgagatgggtttttatga
ttagagtcccgcaattatacatttaatacgcgatagaaaacaaaatatagcgcgcaaactaggataaattatcgcgcgcggtgtca
tctatgttactagatccgggaattgggtac

Total:	3120 bp
ZmUbi promoter:	44 bp to 2026 bp
Six finger ZFP2C7:	2060 bp to 2588 bp
Nuclear localization signal:	2620 bp to 2641 bp
VP64 activation domain:	2641 bp to 2805 bp

HA eptitope tag: 2805 bp to 2836 bp

Nos terminator: 2884 bp to 3164 bp

(5) Sequence of pND3018 coding region (Example 1B) (SEQ ID NO:5):

agcgtgacccggtcgtgcccctctctagagataatgagcattgcatgtctaagttataaaaaattaccacatatttttttg
tcacacttgtttgaagtgcagtttatctatctttatacatatatttaaactttactctacgaataatataatctatagtactacaataatatca
gtgttttagagaatcatataaatgaacagttagacatggtctaaaggacaattgagtattttgacaacaggactctacagttttatcttt
ttagtgtgcatgtgttctccttttttttgcaaatagcttcacctatataatacttcatccattttattagtacatccatttagggtttagggtt
aatggtttttatagactaatttttttagtacatctattttattctattttagcctctaaattaagaaaactaaaactctattttagtttttttattta
ataatttagatataaaatagaataaaataaagtgactaaaaattaaacaaatacccttttaagaaattaaaaaaactaaggaaacatttt
tcttgtttcgagtagataatgccagcctgttaaacgccgtcgacgagtctaacggacaccaaccagcgaaccagcagcgtcgcg
tcgggccaagcgaagcagacggcacggcatctctgtcgctgcctctggacccctctcgagagttccgctccaccgttggacttg
ctccgctgtcggcatccagaaattgcgtggcggagcggcagacgtgagccggcacggcaggcggcctcctcctcctctcacg
gcacggcagctacgggggattcctttcccaccgctccttcgctttcccttcctcgcccgccgtaataaatagacacccctccaca
ccctctttccccaacctcgtgttgttcggagcgcacacacacacaaccagatctcccccaaatccacccgtcggcacctccgctt
caaggtacgccgctcgtcctcccccccccccccctctctaccttctctagatcggcgttccggtccatggttagggcccggtagttc
tacttctgttcatgtttgtgttagatccgtgtttgtgttagatccgtgctgctagcgttcgtacacggatgcgacctgtacgtcagacac
gttctgattgctaacttgccagtgtttctctttggggaatcctgggatggctctagccgttccgcagacgggatcgatttcatgatttt
tttgtttcgttgcatagggtttggtttgccctttcctttatttcaatatatgccgtgcacttgtttgtcgggtcatcttttcatgctttttttgt
cttggttgtgatgatgtggtctggttgggcggtcgttctagatcggagtagaattctgtttcaaactacctggtggatttattaattttgg
atctgtatgtgtgtgccatacatattcatagttacgaattgaagatgatggatggaaatatcgatctaggataggtatacatgttgatg
cgggttttactgatgcatatacagagatgctttttgttcgcttggttgtgatgatgtggtgtggttgggcggtcgttcattcgttctagat
cggagtagaatactgtttcaaactacctggtgtatttattaattttggaactgtatgtgtgtgtcatacatcttcatagttacgagtttaag
atggatggaaatatcgatctaggataggtatacatgttgatgtgggttttactgatgcatatacatgatggcatatgcagcatctattc
atatgctctaaccttgagtacctatctattataataaacaagtatgttttataattattttgatcttgatatacttggatgatggcatatgca
gcagctatatgtggatttttttagccctgccttcatacgctatttatttgcttggtactgtttcttttgtcgatgctcaccctgttgtttggtgt
tacttctgcaggtcgactctagaggatccactagtgagccatgggctagcatggccgctgccgtgcgcatgaacatccagatgct
gctcgaagccgctgattatctggaacgccgggagcgcgaagccgagcacggctacgccagcatgctgccatatccgaaaaag
aaacgcaaggtggcccaggcggccctcgagctcccctatgcttgccctgtcgagtcctgcgatcgccgcttttctaagtcggctg
atctgaagcgccatatccgcatccacacaggccagaagcccttccagtgtcgaatatgcatgcgtaacttcagtcgtagtgacca
ccttaccacccacatccgcacccacacaggcgagaagccttttgcctgtgacatttgtgggaggaagtttgccaggagtgatgaa

cgcaagaggcataccaaaatccataccggtgagaagccctatgcttgccctgtcgagtcctgcgatcgccgcttttctaagtcgg
ctgatctgaagcgccatatccgcatccacacaggccagaagcccttccagtgtcgaatatgcatgcgtaacttcagtcgtagtga
ccaccttaccacccacatccgcacccacacaggcgagaagccttttgcctgtgacatttgtgggaggaagtttgccaggagtgat
gaacgcaagaggcataccaaaatccatttaagacagaaggactctagaactagtggccaggccggccagtacccgtacgacg
ttccggactacgcttcttgaaagcttggtaccgagctcggatcccccgaatttccccgatcgttcaaacatttggcaataaagtttctt
aagattgaatcctgttgccggtcttgcgatgattatcatctaatttctgttgaattacgttaagcatgtaataattaacatgtaatgcatg
acgttatttatgagatgggtttttatgattagagtcccgcaattatacatttaatacgcgatagaaaacaaaatatagcgcgcaaacta
ggataaattatcgcgcgcggtgtcatctatgttactagatccgggaattccggaccggtaccagcggcc

Total:	3068 bp
ZmUbi promoter:	44 bp to 2026 bp
SID repression domain:	2066 bp to 2173 bp
Nuclear localization signal:	2174 bp to 2194 bp
Six finger ZFP2C7:	2207 bp to 2735 bp
HA eptitope tag:	2762 bp to 2791 bp
Nos terminator:	2820 bp to 3112 bp

(6) Sequence of 6X2C7 binding site (SEQ ID NO:6):

Cgtgctagcgcgtgggcggcgtgggcgaacaagcgtgggcggcgtgggcgaacaagcgtgggcggcgtgggc
gactagtgctagcgcgtgggcggcgtgggcgaacaagcgtgggcggcgtgggcgaacaagcgtgggcggcgtgggcgac
tagtg

Total: 155 bp

(7) Sequence of 3 finger protein C7: (SEQ ID NO: 73)

Atggcccaggcggccctcgagccctatgcttgccctgtcgagtcctgcgatcgccgcttttctaagtcggctgatctg
aagcgccatatccgcatccacacaggccagaagcccttccagtgtcgaatatgcatgcgtaacttcagtcgtagtgaccacctta
ccacccacatccgcacccacacaggcgagaagccttttgcctgtgacatttgtgggaggaagtttgccaggagtgatgaacgca
agaggcataccaaaatccatttaagacagaaggactctagaactagtggccaggccggccaggctagc

Total: 314 bp

(8) Amino acid sequence of 3 finger protein C7: (SEQ ID NO: 74)

Maqaalepyacpvescdrrfsksadlkrhirihtgqkpfqcricmrnfsrsdhltthirthtgekpfacdicgrkfar sderkrhtkihlrqkdsrtsgqagqas

Total: 105 aa

(9) Sequence of zinc finger protein ZFPAp3 binding site:

GAT GGA GTT GAA GAA GTA (SEQ ID NO: 7)

Total: 18 bp

(10) Sequence of zinc finger protein ZFPm1 and ZFPm2 binding site m12:

GCC TCC TTC CTC CTC TCA CTC (SEQ ID NO: 8)

Total: 21 bp

ZFPm1 binding site: compliment strand of 1 to 18

ZFPm2 binding site: compliment strand of 4 to 21

(11) Sequence of zinc finger protein ZFPm3 and ZFPm4 binding site m34:

GCC AAC TAC TAC GGC TCC CTC ACC (SEQ ID NO: 11)

Total: 21 bp

ZFPm3 binding site: compliment strand of 1 to 18

ZFPm4 binding site: compliment strand of 7 to 24

(12) Partial sequence of pMal-m1 (1-3300 bp) and zinc finger protein ZFPm1 (2719-3270 bp) (SEQ ID NO:14):

ccgacaccatcgaatggtgcaaaacctttcgcggtatggcatgatagcgcccggaagagagtcaattcagggtggt gaatgtgaaaccagtaacgttatacgatgtcgcagagtatgccggtgtctcttatcagaccgtttcccgcgtggtgaaccaggcca gccacgtttctgcgaaaacgcgggaaaaagtggaagcggcgatggcggagctgaattacattcccaaccgcgtggcacaaca actggcgggcaaacagtcgttgctgattggcgttgccacctccagtctggccctgcacgcgccgtcgcaaattgtcgcggcgat taaatctcgcgccgatcaactgggtgccagcgtggtggtgtcgatggtagaacgaagcggcgtcgaagcctgtaaagcggcg gtgcacaatcttctcgcgcaacgcgtcagtgggctgatcattaactatccgctggatgaccaggatgccattgctgtggaagctg cctgcactaatgttccggcgttatttcttgatgtctctgaccagacacccatcaacagtattattttctcccatgaagacggtacgcga ctgggcgtggagcatctggtcgcattgggtcaccagcaaatcgcgctgttagcgggcccattaagttctgtctcggcgcgtctgc gtctggctggctggcataaatatctcactcgcaatcaaattcagccgatagcggaacgggaaggcgactggagtgccatgtccg

gttttcaacaaaccatgcaaatgctgaatgagggcatcgttcccactgcgatgctggttgccaacgatcagatggcgctgggcgc
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gttatatcccgccgttaaccaccatcaaacaggattttcgcctgctggggcaaaccagcgtggaccgcttgctgcaactctctcag
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cctctccccgcgcgttggccgattcattaatgcagctggcacgacaggtttcccgactggaaagcgggcagtgagcgcaacgc
aattaatgtgagttagctcactcattaggcacaattctcatgtttgacagcttatcatcgactgcacggtgcaccaatgcttctggcgt
caggcagccatcggaagctgtggtatggctgtgcaggtcgtaaatcactgcataattcgtgtcgctcaaggcgcactcccgttct
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ctggttgacctgattaaaaacaaacacatgaatgcagacaccgattactccatcgcagaagctgcctttaataaaggcgaaacag
cgatgaccatcaacggcccgtgggcatggtccaacatcgacaccagcaaagtgaattatggtgtaacggtactgccgaccttca
agggtcaaccatccaaaccgttcgttggcgtgctgagcgcaggtattaacgccgccagtccgaacaaagagctggcaaaaga
gttcctcgaaaactatctgctgactgatgaaggtctggaagcggttaataaagacaaaccgctgggtgccgtagcgctgaagtct
tacgaggaagagttggcgaaagatccacgtattgccgccaccatggaaaacgcccagaaaggtgaaatcatgccgaacatcc
cgcagatgtccgctttctggtatgccgtgcgtactgcggtgatcaacgccgccagcggtcgtcagactgtcgatgaagccctga
aagacgcgcagactaattcgagctcgaacaacaacaacaataacaataacaacaacctcgggatcgagggaaggatttcagaa
ttcggatcctcttcctctgtggcccaggcggccctcgagcccggggagaagccctatgcttgtccggaatgtggtaagtccttctc
tcagagctctcacctggtgcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatcttttag
ccagtccagcaacctggtgcgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttctct
cggtctgacaatctcgtccggcaccaacgtactcacaccggggagaagccctatgcttgtccggaatgtggtaagtccttcagcc
gcagcgataacctggtgcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatcttttagc
caggccggccacctggccagccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttctct
cggtctgacaatctcgtccggcaccaacgtactcacaccggtaaaaaaactagtggccaggccggccagtacccgtacgacgt
tccggactacgct

Total: 514 bp

Primer F1-f1 of ZFPm1: 2770 bp to 2850 bp

Primer F1-f2 of ZFPm1: 2740 bp to 2790 bp

Primer F2-f of ZFPm1: 2867 bp to 2940 bp

Primer F2-b of ZFPm1: 2824 bp to 2889 bp

Primer F3-b1 ZFPm1: 2916 bp to 2973 bp

Primer F3-b2 ZFPm1: 2953 bp to 3021 bp

Primer F4-f1 of ZFPm1: 3022 bp to 3102 bp

Primer F4-f2 of ZFPm1: 2992 bp to 3042 bp

Primer F5-f of ZFPm1: 3119 bp to 3192 bp

Primer F5-b of ZFPm1: 3076 bp to 3141 bp

Primer F6-b1 of ZFPm1: 3168 bp to 3225 bp

Primer F6-b2 of ZFPm1: 3205 bp to 3273 bp

(13) Sequence of zinc finger protein ZFPm1

(Translated from pMal-m1: 2719-3270 bp): (SEQ ID NO: 75)

Aqaalepgekpyacpecgksfsdpghlvrhqrthtgekpykcpecgksfsqrahlerhqrthtgekpykcpec
gksfsqssnlvrhqrthtgekpyacpecgksfsrsdnlvrhqrthtgekpykcpecgksfsrsdnlvrhqrthtgekpykcpe
cgksfsqaghlashqrthtgkktsgqag

(14) Partial sequence of pMal-m2 (1-3300 bp) and zinc finger protein ZFPm2

(2719-3270 bp) (SEQ ID NO:15):

ccgacaccatcgaatggtgcaaaacctttcgcggtatggcatgatagcgcccggaagagagtcaattcagggtggt
gaatgtgaaaccagtaacgttatacgatgtcgcagagtatgccggtgtctcttatcagaccgtttcccgcgtggtgaaccaggcca
gccacgtttctgcgaaaacgcgggaaaaagtggaagcggcgatggcggagctgaattacattcccaaccgcgtggcacaaca
actggcgggcaaacagtcgttgctgattggcgttgccacctccagtctggccctgcacgcgccgtcgcaaattgtcgcggcgat
taaatctcgcgccgatcaactgggtgccagcgtggtggtgtcgatggtagaacgaagcggcgtcgaagcctgtaaagcggcg
gtgcacaatcttctcgcgcaacgcgtcagtgggctgatcattaactatccgctggatgaccaggatgccattgctgtggaagctg
cctgcactaatgttccggcgttatttcttgatgtctctgaccagacacccatcaacagtattattttctcccatgaagacggtacgcga
ctgggcgtggagcatctggtcgcattgggtcaccagcaaatcgcgctgttagcgggcccattaagttctgtctcggcgcgtctgc

gtctggctggctggcataaatatctcactcgcaatcaaattcagccgatagcggaacgggaaggcgactggagtgccatgtccg

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gtggaattgtgagcggataacaatttcacacaggaaacagccagtccgtttaggtgttttcacgagcacttcaccaacaaggacc

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ttcggatcctcttcctctgtggcccaggcggccctcgagcccggggagaagccctatgcttgtccggaatgtggtaagtccttctc

tcagagctctcacctggtgcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatcttttag

ccagtccagcaacctggtgcgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttctct

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caggccggccacctggccagccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttctct

cggtctgacaatctcgtccggcaccaacgtactcacaccggtaaaaaaactagtggccaggccggccagtacccgtacgacgt

tccggactacgct

Total: 514 bp

Primer F1-f1 of ZFPm2: 2770 bp to 2850 bp

Primer F1-f2 of ZFP m2: 2740 bp to 2790 bp

Primer F2-f of ZFP m2: 2867 bp to 2940 bp

Primer F2-b of ZFPm2: 2824 bp to 2889 bp

Primer F3-b1 ZFPm2: 2916 bp to 2973 bp

Primer F3-b2 ZFPm2: 2953 bp to 3021 bp

Primer F4-f1 of ZFPm2: 3022 bp to 3102 bp

Primer F4-f2 of ZFPm2: 2992 bp to 3042 bp

Primer F5-f of ZFPm2: 3119 bp to 3192 bp

Primer F5-b of ZFPm2: 3076 bp to 3141 bp

Primer F6-b1 of ZFPm2: 3168 bp to 3225 bp

Primer F6-b2 of ZFPm2: 3205 bp to 3273 bp

(15) Partial sequence of pMal-m3 (1-3300 bp) and zinc finger protein ZFPm3 (2719-3270 bp) (SEQ ID NO:16):

ccgacaccatcgaatggtgcaaaacctttcgcggtatggcatgatagcgcccggaagagagtcaattcagggtggt
gaatgtgaaaccagtaacgttatacgatgtcgcagagtatgccggtgtctcttatcagaccgtttcccgcgtggtgaaccaggcca
gccacgtttctgcgaaaacgcgggaaaaagtggaagcggcgatggcggagctgaattacattcccaaccgcgtggcacaaca
actggcgggcaaacagtcgttgctgattggcgttgccacctccagtctggccctgcacgcgccgtcgcaaattgtcgcggcgat
taaatctcgcgccgatcaactgggtgccagcgtggtggtgtcgatggtagaacgaagcggcgtcgaagcctgtaaagcggcg
gtgcacaatcttctcgcgcaacgcgtcagtgggctgatcattaactatccgctggatgaccaggatgccattgctgtggaagctg
cctgcactaatgttccggcgttatttcttgatgtctctgaccagacacccatcaacagtattattttctcccatgaagacggtacgcga
ctgggcgtggagcatctggtcgcattgggtcaccagcaaatcgcgctgttagcgggcccattaagttctgtctcggcgcgtctgc
gtctggctggctggcataaatatctcactcgcaatcaaattcagccgatagcggaacgggaaggcgactggagtgccatgtccg
gttttcaacaaaccatgcaaatgctgaatgagggcatcgttcccactgcgatgctggttgccaacgatcagatggcgctgggcgc
aatgcgcgccattaccgagtccgggctgcgcgttggtgcggatatctcggtagtgggatacgacgataccgaagacagctcat
gttatatcccgccgttaaccaccatcaaacaggattttcgcctgctggggcaaaccagcgtggaccgcttgctgcaactctctcag

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cctctccccgcgcgttggccgattcattaatgcagctggcacgacaggtttcccgactggaaagcgggcagtgagcgcaacgc
aattaatgtgagttagctcactcattaggcacaattctcatgtttgacagcttatcatcgactgcacggtgcaccaatgcttctggcgt
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ggcgatggccctgacattatcttctgggcacacgaccgctttggtggctacgctcaatctggcctgttggctgaaatcaccccgg
acaaagcgttccaggacaagctgtatccgtttacctgggatgccgtacgttacaacggcaagctgattgcttacccgatcgctgtt
gaagcgttatcgctgatttataacaaagatctgctgccgaacccgccaaaaacctgggaagagatcccggcgctggataaagaa
ctgaaagcgaaaggtaagagcgcgctgatgttcaacctgcaagaaccgtacttcacctggccgctgattgctgctgacgggggt
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ctggttgacctgattaaaaacaaacacatgaatgcagacaccgattactccatcgcagaagctgcctttaataaaggcgaaacag
cgatgaccatcaacggcccgtgggcatggtccaacatcgacaccagcaaagtgaattatggtgtaacggtactgccgaccttca
agggtcaaccatccaaaccgttcgttggcgtgctgagcgcaggtattaacgccgccagtccgaacaaagagctggcaaaaga
gttcctcgaaaactatctgctgactgatgaaggtctggaagcggttaataaagacaaaccgctgggtgccgtagcgctgaagtct
tacgaggaagagttggcgaaagatccacgtattgccgccaccatggaaaacgcccagaaaggtgaaatcatgccgaacatcc
cgcagatgtccgctttctggtatgccgtgcgtactgcggtgatcaacgccgccagcggtcgtcagactgtcgatgaagccctga
aagacgcgcagactaattcgagctcgaacaacaacaacaataacaataacaacaacctcgggatcgagggaaggatttcagaa
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gcgatcctggccacctggttcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatctttta
gcaccagcggctccctggtgcgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttca
gccagagctccagcctggtgcgccaccaacgtactcacaccggggagaagccctatgcttgtccggaatgtggtaagtccttca
gccagagcagctccctggtgcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatctttt
agtgactgccgcgaccttgctcgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttct
cccaatccagccatctcgtccggcaccaacgtactcacaccggtaaaaaaactagtggccaggccggccagtacccgtacgac
gttccggactacgct

Total: 514 bp

Primer F1-f1 of ZFPm3: 2770 bp to 2850 bp

Primer F1-f2 of ZFP m3: 2740 bp to 2790 bp

Primer F2-f of ZFP m3: 2867 bp to 2940 bp

Primer F2-b of ZFPm3: 2824 bp to 2889 bp

Primer F3-b1 ZFPm3: 2916 bp to 2973 bp

Primer F3-b2 ZFPm3: 2953 bp to 3021 bp

Primer F4-f1 of ZFPm3: 3022 bp to 3102 bp

Primer F4-f2 of ZFPm3: 2992 bp to 3042 bp

Primer F5-f of ZFPm3: 3119 bp to 3192 bp

Primer F5-b of ZFPm3: 3076 bp to 3141 bp

Primer F6-b1 of ZFPm3: 3168 bp to 3225 bp

Primer F6-b2 of ZFPm3: 3205 bp to 3273 bp

(16) Partial sequence of pMal-m4 (1-3300 bp) and zinc finger protein ZFPm4 (2719-3270 bp) (SEQ ID NO:17):

ccgacaccatcgaatggtgcaaaacctttcgcggtatggcatgatagcgcccggaagagagtcaattcagggtggt
gaatgtgaaaccagtaacgttatacgatgtcgcagagtatgccggtgtctcttatcagaccgtttcccgcgtggtgaaccaggcca
gccacgtttctgcgaaaacgcgggaaaaagtggaagcggcgatggcggagctgaattacattcccaaccgcgtggcacaaca
actggcgggcaaacagtcgttgctgattggcgttgccacctccagtctggccctgcacgcgccgtcgcaaattgtcgcggcgat
taaatctcgcgccgatcaactgggtgccagcgtggtggtgtcgatggtagaacgaagcggcgtcgaagcctgtaaagcggcg
gtgcacaatcttctcgcgcaacgcgtcagtgggctgatcattaactatccgctggatgaccaggatgccattgctgtggaagctg
cctgcactaatgttccggcgttatttcttgatgtctctgaccagacacccatcaacagtattattttctcccatgaagacggtacgcga
ctgggcgtggagcatctggtcgcattgggtcaccagcaaatcgcgctgttagcgggcccattaagttctgtctcggcgcgtctgc
gtctggctggctggcataaatatctcactcgcaatcaaattcagccgatagcggaacgggaaggcgactggagtgccatgtccg
gttttcaacaaaccatgcaaatgctgaatgagggcatcgttcccactgcgatgctggttgccaacgatcagatggcgctgggcgc
aatgcgcgccattaccgagtccgggctgcgcgttggtgcggatatctcggtagtgggatacgacgataccgaagacagctcat
gttatatcccgccgttaaccaccatcaaacaggattttcgcctgctggggcaaaccagcgtggaccgcttgctgcaactctctcag
ggccaggcggtgaagggcaatcagctgttgcccgtctcactggtgaaaagaaaaaccaccctggcgcccaatacgcaaaccg
cctctccccgcgcgttggccgattcattaatgcagctggcacgacaggtttcccgactggaaagcgggcagtgagcgcaacgc
aattaatgtgagttagctcactcattaggcacaattctcatgtttgacagcttatcatcgactgcacggtgcaccaatgcttctggcgt
caggcagccatcggaagctgtggtatggctgtgcaggtcgtaaatcactgcataattcgtgtcgctcaaggcgcactcccgttct
ggataatgtttttttgcgccgacatcataacggttctggcaaatattctgaaatgagctgttgacaattaatcatcggctcgtataatgt

gtggaattgtgagcggataacaatttcacacaggaaacagccagtccgtttaggtgttttcacgagcacttcaccaacaaggacc
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ggcgatggccctgacattatcttctgggcacacgaccgctttggtggctacgctcaatctggcctgttggctgaaatcaccccgg
acaaagcgttccaggacaagctgtatccgtttacctgggatgccgtacgttacaacggcaagctgattgcttacccgatcgctgtt
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ctgaaagcgaaaggtaagagcgcgctgatgttcaacctgcaagaaccgtacttcacctggccgctgattgctgctgacgggggt
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ctggttgacctgattaaaaacaaacacatgaatgcagacaccgattactccatcgcagaagctgcctttaataaaggcgaaacag
cgatgaccatcaacggcccgtgggcatggtccaacatcgacaccagcaaagtgaattatggtgtaacggtactgccgaccttca
agggtcaaccatccaaaccgttcgttggcgtgctgagcgcaggtattaacgccgccagtccgaacaaagagctggcaaaaga
gttcctcgaaaactatctgctgactgatgaaggtctggaagcggttaataaagacaaaccgctgggtgccgtagcgctgaagtct
tacgaggaagagttggcgaaagatccacgtattgccgccaccatggaaaacgcccagaaaggtgaaatcatgccgaacatcc
cgcagatgtccgctttctggtatgccgtgcgtactgcggtgatcaacgccgccagcggtcgtcagactgtcgatgaagccctga
aagacgcgcagactaattcgagctcgaacaacaacaacaataacaataacaacaacctcgggatcgagggaaggatttcagaa
ttcggatcctcttcctctgtggcccaggcggccctcgagcccggggagaagccctatgcttgtccggaatgtggtaagtccttca
gccagagcagctccctggtgcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatctttt
agccagagcagcagcctggtgcgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttc
agtgattgtcgtgatcttgcgaggcaccaacgtactcacaccggggagaagccctatgcttgtccggaatgtggtaagtccttctc
tcagagctctcacctggtgcgccaccagcgtacccacacgggtgaaaaaccgtataaatgcccagagtgcggcaaatcttttag
ccgcagcgataacctggtgcgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtctttctca
acttcaggccatttggtccgtcaccaacgtactcacaccggtaaaaaaactagtggccaggccggccagtacccgtacgacgtt
ccggactacgct

Total: 514 bp

Primer F1-f1 of ZFPm4: 2770 bp to 2850 bp

Primer F1-f2 of ZFPm4: 2740 bp to 2790 bp

Primer F2-f of ZFPm4: 2867 bp to 2940 bp

Primer F2-b of ZFPm4: 2824 bp to 2889 bp

Primer F3-b1 ZFPm4: 2916 bp to 2973 bp

Primer F3-b2 ZFPm4: 2953 bp to 3021 bp

Primer F4-f1 of ZFPm4: 3022 bp to 3102 bp

Primer F4-f2 of ZFPm4: 2992 bp to 3042 bp

Primer F5-f of ZFPm4: 3119 bp to 3192 bp

Primer F5-b of ZFPm4: 3076 bp to 3141 bp

Primer F6-b1 of ZFPm4: 3168 bp to 3225 bp

Primer F6-b2 of ZFPm4: 3205 bp to 3273 bp

(17) Partial sequence of pMal-Ap3 (1-3300 bp) and zinc finger protein ZFPAp3 (2719-3270 bp) (SEQ ID NO:18):

ccgacaccatcgaatggtgcaaaacctttcgcggtatggcatgatagcgcccggaagagagtcaattcagggtggt
gaatgtgaaaccagtaacgttatacgatgtcgcagagtatgccggtgtctcttatcagaccgtttcccgcgtggtgaaccaggcca
gccacgtttctgcgaaaacgcgggaaaaagtggaagcggcgatggcggagctgaattacattcccaaccgcgtggcacaaca
actggcgggcaaacagtcgttgctgattggcgttgccacctccagtctggccctgcacgcgccgtcgcaaattgtcgcggcgat
taaatctcgcgccgatcaactgggtgccagcgtggtggtgtcgatggtagaacgaagcggcgtcgaagcctgtaaagcggcg
gtgcacaatcttctcgcgcaacgcgtcagtgggctgatcattaactatccgctggatgaccaggatgccattgctgtggaagctg
cctgcactaatgttccggcgttatttcttgatgtctctgaccagacacccatcaacagtattattttctcccatgaagacggtacgcga
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gttttcaacaaaccatgcaaatgctgaatgagggcatcgttcccactgcgatgctggttgccaacgatcagatggcgctgggcgc
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cctctccccgcgcgttggccgattcattaatgcagctggcacgacaggtttcccgactggaaagcgggcagtgagcgcaacgc
aattaatgtgagttagctcactcattaggcacaattctcatgtttgacagcttatcatcgactgcacggtgcaccaatgcttctggcgt
caggcagccatcggaagctgtggtatggctgtgcaggtcgtaaatcactgcataattcgtgtcgctcaaggcgcactcccgttct
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ggcgatggccctgacattatcttctgggcacacgaccgctttggtggctacgctcaatctggcctgttggctgaaatcaccccgg
acaaagcgttccaggacaagctgtatccgtttacctgggatgccgtacgttacaacggcaagctgattgcttacccgatcgctgtt

gaagcgttatcgctgatttataacaaagatctgctgccgaacccgccaaaaacctgggaagagatcccggcgctggataaagaa
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agccagcgcgcccacctggaacgccatcaacgcactcatactggcgagaagccatacaaatgtccagaatgtggcaagtcttt
ctcaacttcaggcaacttggtccgtcaccaacgtactcacaccggtaaaaaaactagtggccaggccggccagtacccgtacga
cgttccggactacgct

Total: 514 bp

Primer F1-f1 of ZFPAp3: 2770 bp to 2850 bp

Primer F1-f2 of ZFPAp3: 2740 bp to 2790 bp

Primer F2-f of ZFPAp3: 2867 bp to 2940 bp

Primer F2-b of ZFPAp3: 2824 bp to 2889 bp

Primer F3-b1 ZFPAp3: 2916 bp to 2973 bp

Primer F3-b2 ZFPAp3: 2953 bp to 3021 bp

Primer F4-f1 of ZFPAp3: 3022 bp to 3102 bp

Primer F4-f2 of ZFPAp3: 2992 bp to 3042 bp

Primer F5-f of ZFPAp3: 3119 bp to 3192 bp

Primer F5-b of ZFPAp3: 3076 bp to 3141 bp

Primer F6-b1 of ZFPAp3: 3168 bp to 3225 bp

Primer F6-b2 of ZFPAp3: 3205 bp to 3273 bp

(18) Sequence of oligo m12 (SEQ ID NO:19):

Biotin-GGa gcc tcc ttc ctc ctc tca ctc GGG TTTT CCC gag tga gag gag gaa gga ggc tCC

Total: 58 bp

Lower case sequence: ZFPm1 and ZFPm2 binding site m12

(19) Sequence of oligo m34 (SEQ ID NO:20):

Biotin-GGa gcc aac tac tac ggc tcc ctc acc GGG TTTT CCC ggt gag gga gcc gta gta gtt ggc tCC

Total: 58 bp

Lower case sequence: ZFPm3 and ZFPm4 binding site m34

(20) Sequence of oligo Ap3 (SEQ ID NO:21):

Biotin-GGt tac ttc ttc aac tcc atc GGG TTTT CCC gat gga gtt gaa gaa gta aCC

Total: 52 bp

Lower case sequence: ZFPAp3 binding site

(21) Sequence of oligo NRI-1 (SEQ ID NO:22):

Biotin-GG ttc tac ccc tcc cac cgc GGG TTTT CCC gcg gtg gga ggg gta gaa CC

Total: 51 bp

(22) Sequence of oligo NRI-2 (SEQ ID NO:23):

Biotin-GG tgc ggc gac tgc agc agc GGG TTTT CCC gct gct gca gtc gcc gca CC

Total: 51 bp

(23) Sequence of oligo hHD-I (SEQ ID NO:24):

Biotin-GG ggc ccc gcc tcc gcc ggc GGG TTTT CCC gcc ggc gga ggc ggg gcc CC

Total: 51 bp

(24) Sequence of oligo hHD-II (SEQ ID NO:25):

Biotin-GG ggc agc ccc cac ggc gcc GGG TTTT CCC ggc gcc gtg ggg gct gcc CC

Total: 51 bp

(25) Sequence of oligo c5p1-g (SEQ ID NO:26):

Biotin-GG gac acc ccc aac ccc gcc GGG TTTT CCC ggc ggg gtt ggg ggt gtc CC

Total: 51 bp

(26) Sequence of oligo c5p3-g (SEQ ID NO:27):

Biotin-GG ctc tgc tca tcc cac tac GGG TTTT CCC gta gtg gga tga gca gag CC

Total: 51 bp

(27) Sequence of oligo B3c2 (SEQ ID NO:28):

Biotin-GG acc cac cgc gtc ccc tcc GGG TTTT CCC gga ggg gac gcg gtg ggt CC

Total: 51 bp

(28) Sequence of oligo e2c-g (SEQ ID NO:29):

Biotin-GG cac tgc ggc tcc ggc ccc GGG TTTT CCC ggg gcc gga gcc gca gtg CC

Total: 51 bp

(29) Sequence of primer Ap3-F (SEQ ID NO:30):

GGCGAGAGGGAAGATCCAG

Total: 19 bp

(30) Sequence of primer NZlib5' (SEQ ID NO:31):

GGCCCAGGCGGCCCTCGAGC

Total: 20 bp

(31) Sequence of primer Ap3f4-R (SEQ ID NO:32):

CTCCTCTAATACGACTCACTATAGGGACACTCACCTAGCCTCTG

Total: 44 bp

(32) Sequence of primer m4f3-R (SEQ ID NO:33):

CCTCGCAAGATCACGACAATC

Total: 21 bp

(33) Sequence of quantitative PCR probe for AP3 (SEQ ID NO:34):

CCATTTCATCCTCAAGACGACGCAGCT

Total: 27 bp

(34) Sequence of quantitative PCR primer for AP3 (Forward) (SEQ ID NO:35):

TTTGGACGAGCTTGACATTCAG

Total: 22 bp

(35) Sequence of quantitative PCR primer for AP3 (Reverse) (SEQ ID NO:36):

CGCGAACGAGTTTGAAAGTG

Total: 20 bp

(36) Sequence of 2C7-SID (Figure 3) (SEQ ID NO:66):

gacggatcgggagatctcccgatcccctatggtcgactctcagtacaatctgctctgatgccgcatagttaagccagta
tctgctccctgcttgtgtgttggaggtcgctgagtagtgcgcgagcaaaatttaagctacaacaaggcaaggcttgaccgacaatt
gcatgaagaatctgcttagggttaggcgttttgcgctgcttcgcgatgtacgggccagatatacgcgttgacattgattattgacta
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